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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,667	02/27/2004	Thomas Ferianz	1890-0059	3620
7590 09/07/2005			EXAMINER	
Maginot, Moore & Beck Bank One Tower 111 Monument Circle, Suite 3000 Indianapolis, IN 46204			NGUYEN, HIEP	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/788,667	<b>Applicant(s)</b> FERIANZ ET AL	
	<b>Examiner</b> Hiep Nguyen	<b>Art Unit</b> 2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 July 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29 and 30 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4-28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

Claim 24 is objected to because of the following informalities: the recitation “the switching frequency” does not have antecedent basis. Appropriate correction is required.

### ***Drawings***

The drawings are objected to because labels for the blank boxes in figures 1-5 are missing. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-3, are rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi (US Pat. 6,480,067).

Regarding claim 1 figures 2, 3, 6 and 7 shows a line driver arrangement for driving a signal comprising: a digital amplifier (110), analog amplifier (112) having output coupled at summing nodes. The gain of the analog amplifier (112) is adjusted to match the gain of the digital amplifier (110) so that the overshoot at the output is minimized (Abstract, col. 2, lines 19-30, col. 4, lines 15-22, col. 6, lines 1-31). The analog and digital amplifiers are in different paths.

Regarding claim 2, figure 5 of shows that the feedback path comprises transistors (Qc1) or (Qc2).

Regarding claim 3, the analog amplifier and the digital amplifier are arranged in different paths.

Claims 1 and 2, are rejected under 35 U.S.C. 102(b) as being anticipated by Harrison et al. (US Pat. 5,677,962).

Regarding claim 1, figure 1 of Harrison shows a line driver for driving signals via at least one subscriber line (not shown), comprising:

an input (10) for injecting an input signal and an output at which a signal which is to be driven via the subscriber line is tapped off,

a digital amplifier (40) which produces a digital signal on the output side from one of the input signal or a signal derived from the input signal,

an analog amplifier (20), which produces an analog signal on the output side from one of the input signal or a signal derived from the input signal,

wherein the outputs of the amplifiers are coupled such that the signal to be driven results from superimposition of the analog signal and the digital signal, and

wherein the gain of the analog amplifier is matched to the gain of the digital amplifier such that at least one of the scatter or overshoot on the digital signal is at least reduced after the superimposition. Note that the mixing console (100) sum the output of the analog and digital amplifiers so that the total gain is substantially equal to a selected value i.e., the scatter or overshoot on the digital signal is eliminated in the mixing console for maintaining a constant gain (abstract).

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Regarding claim 2, the feedback circuit comprises element (60) an inherently coupled to the negative input of the analog amplifier (20).

***Allowable Subject Matter***

Claims 4-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 29 and 30 are allowed because the prior art of record (USP. 6,480,067 and USP. 5,677,962) fail to teach or suggest a line driver comprising a digital amplifier which produces a PWM signal as called for in claim 29.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hiep Nguyen whose telephone number is (571) 272-1752. The examiner can normally be reached on Monday to Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hiep Nguyen

08-30-05



TUAN T. LAM  
PRIMARY EXAMINER